Letters to the Editor

Vertebral artery complications following gentle cervical treatments. (Comment on Mann T and Refshauge KM, *Australian Journal of Physiotherapy* 47: 255-266.)

I congratulate and express appreciation to Mann and Refshauge for their comprehensive analysis of the causes of complications from cervical spine manipulation (Mann and Refshauge 2001).

This review of the changes in vertebral artery blood flow induced by different neck positions, and the factors which may result in failure of the vertebral artery, were timely reminders.

I wish to comment on the statement that vertebrobasilar complications can occur from minor trauma. The purpose of my correspondence is to raise awareness about the potential risk to the vertebrobasilar system with even gentle mobilisation procedures or cervical traction.

In 1998, the Centre for Physiotherapy Research (Grimmer 1998) elicited responses from 562 members of the MPAA, representing 65% of the membership, regarding techniques used in their practices and the incidence of complications. Passive mobilisation was used by 99.8% of respondents, and cervical traction was reported by 94.9% of respondents.

With respect to complications, there were no reported deaths or cerebrovascular accidents, but temporary effects associated with the vertebrobasilar system were reported. Over all their years of manipulative therapy practice 23.4% of respondents reported one patient with complications, 16.7% of respondents reported between two and 10 patients with complications, and 3.1% of respondents reported more than 10 patients with complications. Twenty-seven-point-five per cent of adverse reactions related to passive mobilisation techniques, and 16.1% to high velocity thrust techniques

The incidence of these temporary complications with gentler procedures emphasises that it is not only the force, speed, and amplitude associated with manipulations which may account for the risk. Indeed, a recent paper on the unpredictability of cerebrovascular ischaemia associated with cervical spine manipulation reported that most vertebrobasilar artery dissections occur in the absence of cervical manipulation, either spontaneously or after trivial trauma, or with common daily movements of the neck (Haldeman et al 2002).

The clinical guidelines for pre-manipulative procedures for the cervical spine stress precautions and protocols for "every" patient undergoing "any form" of treatment of the cervical spine. However, because these guidelines focus on high velocity techniques and end of range techniques, it may sometimes be overlooked that these precautions apply equally to mobilisation or cervical traction.

I consider it would be appropriate to emphasise an additional precaution when using gentler techniques. The onset of neurologic dysfunction following cervical treatments is most commonly within 48 hours, but may be a longer interval (Haldeman et al 2002). It is therefore important to repeat subjective questioning at each treatment session during a course of cervical mobilisation, in order to be alerted to even temporary vertebrobasilar symptomatology which may have developed during the interval between treatments.

Greg Schneider
Sydney

Grimmer K (1998): Cervical manipulation: Compliance with and attitudes to the current Australian Physiotherapy Association protocol for pre-manipulative testing of the cervical spine. Incidence of complications. Report by Centre for Physiotherapy Research, University of South Australia.

Haldeman S, Kohlbeck FJ and McGregor M (2002): Unpredictability of cerebrovascular ischaemia associated with cervical spine manipulation therapy. *Spine* 27: 49-55.

Mann T and Refshauge KM (2001): Causes of complications from cervical spine manipulation. *Australian Journal of Physiotherapy* 47: 255-266.

Sustainable graduate education and professional competency. (Comment on Crosbie J et al, *Australian Journal of Physiotherapy* 48: 5-7.)

There are many stakeholders in the continuing evolution of the tertiary physiotherapy education industry. I congratulate the Heads of the Schools of Physiotherapy for their contribution to the discussion of competency and the profession in the most recent *Australian Journal of Physiotherapy* Editorial (Crosbie et al 2002). I believe that the consensus of the Heads of Schools and the decisions of the accreditation body represent major forces in producing change in this industry.

The editorial focus was on the undergraduate competencies, however, any changes achieved will also benchmark potential changes in the graduate entry Masters programs, continuing mandatory professional development of qualified physiotherapists and postgraduate clinical specialisation training programs. It could be argued that the focus on the undergraduate program has been fuelled by comparison of relative competencies and credits afforded to the new graduate entry Masters programs.

Any changes, however, need to balance two competing pressures, viz the financial and logistical constraints in teaching clinical decision-making and specific skills training reported by the education providers and, secondly, the basic competencies that the profession expects will be taught within undergraduate courses.

I believe that one essential issue pertinent to physiotherapy